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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/797,756

03/10/2004

Daniel James Plant

1315-22

4239

7590

07/28/2006

David M. Carter

Carter, DeLuca, Farrell & Schmidt, LLP

Suite 225

445 Broad Hollow Road

Melville, NY 11747

EXAMINER

JUSKA, CHERYL ANN

ART UNIT

PAPER NUMBER

1771

DATE MAILED: 07/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/797,756

Applicant(s)

PLANT, DANIEL JAMES

Examiner

Cheryl Juska

Art Unit

1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 62-99 is/are pending in the application.
- 4a) Of the above claim(s) 71,72 and 76-99 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 62-70 and 73-75 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 06/04, 05/06
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I, claims 62-85, in the paper filed May 5, 2006, is acknowledged. Additionally, applicant's election with traverse of Species A, claims 62-70 and 73-75, is acknowledged. Since applicant did not distinctly and specifically point out the supposed errors in the restriction of species requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Non-elected claims 71 (Species B), 72 (Species C), and 76-85 (Species D) are hereby withdrawn from prosecution.

Response to Amendment

2. Applicant's amendment filed January 13, 2006, is entered. Claims 1-61 have been cancelled. Claim 65 has been amended as requested. The pending claims are 62-99, with claims 71, 72, and 76-99 being withdrawn as non-elected. Thus, the claims pending for examination on the merits are 62-70 and 73-75.

Information Disclosure Statement

3. The information disclosure statement filed June 18, 2004, fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of two patents listed that are not in the English language (i.e., FR

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2505730 and DE 8524266.7). The IDS has been placed in the application file, but said two patents have not been considered.

Specification

4. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

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5. The use of the trademarks “Duolite” and “Dow Corning 3179” have been noted in this application. They should be capitalized wherever they appear and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Claim Objections

6. Claims 62 and 73-75 are objected to because of the following informalities: the misspelling of “dilatant” as “dilatent.” Appropriate correction is required.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 70 and 73-75 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

9. Claim 70 is rejected for the lack of antecedent basis for “the compressible core.” Claim 65, from which 70 depends, recites “a resilient core” rather than “a compressible core.”

10. Claims 73-75 are rejected for the lack of antecedent basis for “the dilatent compound.” The “dilatent compound” is not recited until claim 62. However, claims 73-75 depend from claim 61. Hence, claims 73-75 lack proper antecedent basis for “the dilatent compound.”

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11. Claim 74 is indefinite for the use of the trademark “Duolite.” Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 USC 112, 2nd paragraph. See *Ex parte Simpson*, 218 USPQ 1020. The claim scope is uncertain since the trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. For the purposes of examination, the limitations of claim 74 are met if a filler is disclosed by the prior art. Note the recitation to the filler being “lightweight” is not necessarily given patentable weight since “lightweight” is a relative term that cannot serve to patentably distinguish the present invention from the prior art.

12. Claim 75 is similarly indefinite for the use of the trademark “Dow Corning 3179.” For the purposes of examination, the limitations of claim 75 are met if a dilatant of a generic polyborosiloxane is disclosed.

13. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

14. Claim 69 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claims contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 69 is non-enabled because the specification as originally filed does not teach one skilled in the art how to make the claimed compressible bubbles in the upper and lower woven cover layers of the carrier material. Are the

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bubbles created by the construction of the woven structure itself or are said bubbles embossed therein? Or, are said bubbles formed in another manner?

Claim Rejections - 35 USC § 102

15. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

16. Claims 62-64, 73, and 75 are rejected under 35 USC 102(b) as being anticipated by GB 2 349 798 issued to Plant.

Applicant claims a flexible energy absorbing material comprising a resilient carrier with voids or cavities therein, preferably a spacer fabric having a resilient core of a woven or knitted pile layer sandwiched between a pair of covering layers having apertures. Said carrier is coated or impregnated or combined with a dilatant material, such as dimethyl-siloxane-hydro-terminated polymer. Said dilatant may also include filler.

Plant discloses an energy absorbing material comprising two outer encapsulating layers forming an envelope or cavity containing a dilatant, such as “Dow Corning 3179,” a dimethyl siloxane hydroterminated polymer (abstract, page 2, lines 13-28, and Figure 2). The encapsulating envelope may be made of foam, fabric, plastic, rubber, or metal (page 3, lines 2-4). Since the outer layers which create an envelope, the limitation to the carrier being a spacer

material is met (Figures 1 and 2). Therefore, claims 62-64, 73, and 75 are anticipated by the cited Plant reference.

17. Claims 62-64 and 73-75 are rejected under 35 USC 102(e) as being anticipated by US 2005/0037189 issued to Palmer et al.

Palmer discloses a self-supporting energy absorbing composite comprising a foam matrix and a polymer-based dilatant, such as “Dow Corning 3179” (polyborondimethylsiloxane) (abstract and section [0019]). Said dilatant may also include lightweight filler, such as microspheres (section [0019]). Since the foam is a self-supporting sheet having a thickness, the limitation to a “spacer material” is inherently met. Therefore, claims 62-64 and 73-75 are anticipated by the cited Palmer reference.

18. Claims 62-64 and 73-75 are rejected under 35 USC 102(e) as being anticipated by US 6,701,529 issued to Rhoades et al.

Rhoades discloses a dilatant material in a containment envelope made of a film, non-porous fabric, foil, leather or the like (abstract, col. 4, lines 36-42, and Figures 3a and 3b). Said dilatant may be a polyborosiloxane polymer having a filler of plastic microspheres (col. 8, lines 44-49). Since the containment envelope shown in Figures 3a and 3b meets the “spacer material” limitation, claims 62-64 and 73-75 are anticipated by the cited Rhoades patent.

19. Claims 62-64 are rejected under 35 USC 102(b) as being anticipated by US 5,776,839 issued to Dischler et al.

Dischler discloses an energy absorbing fabric coated with a dilatant powder (abstract). Since a fabric, especially a bulky nonwoven, can inherently act as spacer material, claims 62-64 are anticipated.

Claim Rejections - 35 USC § 103

20. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

21. Claims 65-68 and 70 are rejected under 35 USC 103(a) as being unpatentable over the cited Palmer reference in view of US 5,589,245 issued to Roell.

Palmer teaches the presently claimed invention with the exception that the dilatant carrier is a spacer fabric comprising a resilient core sandwiched between a pair of covering layers. Palmer employs a foam carrier. However, it is well known in the art that spacer fabrics are suitable replacements for resilient foam layers. For example, Roell teaches a knit or woven spacer fabric comprising two cover layers connected by pile threads (abstract). Roell also teaches said spacer fabric may be filled with a granular solid or powder in the pile portion of the spacer fabric (col. 4, lines 47-60). Thus, it would have been obvious to one of ordinary skill in the art to substitute a spacer fabric as taught by Roell for the foam carrier of Palmer with the expectation of producing an energy absorbing material made of a recyclable carrier that has an aesthetically pleasing and comfortable outer fabric surface. Therefore, claim 65 is rejected as being obvious over the cited prior art.

Regarding claim 66, it is asserted that woven and, especially, knit spacer fabrics inherently have a plurality of apertures in the covering fabrics due to the nature of said fabrics being made from interengaged fibers, filaments, or yarns. Hence, claims 66-68 are also rejected.

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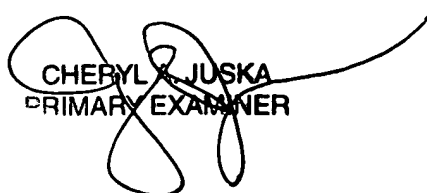
Claim 70 is also rejected since the spacer fabric of Roell having pile strands connecting the two cover layers inherently produces "elongate hollow channels" due to the nature of said pile strands (Figure 1). Therefore, claim 70 is also rejected.

Conclusion

22. The art made of record and not relied upon is considered pertinent to applicant's disclosure.

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cheryl Juska whose telephone number is 571-272-1477. The examiner can normally be reached on Monday-Friday 10am-6pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached at 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

24. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


CHERYL A. JUSKA
PRIMARY EXAMINER

cj
July 23, 2006